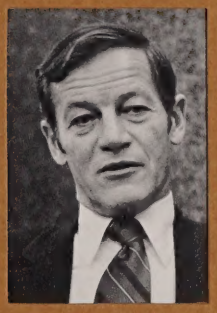
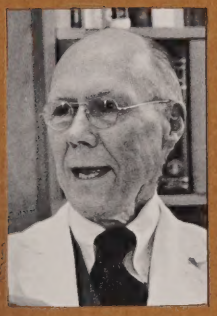
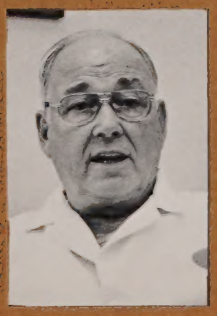
New England Deaconess Hospital
1977 Annual Report







New England Deaconess Hospital Complex

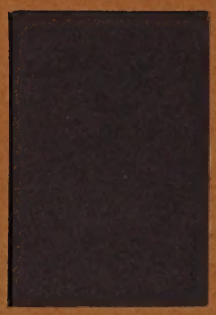
Cancer Research Institute
Shields Warren Radiation Laboratory
Lowry Medical Building
Joslin Clinic
Lahey Clinic
Overholt Thoracic Clinic
Meissner Laboratory

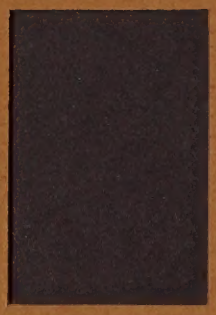
Personnel Facts

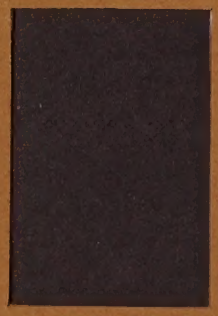
Medical staff	415
Basic research scientists	20
Residents	75
School of nursing enrollment	192
Total employees	2,416
Membership of Friends of the Deaconess (including 69 Life Members)	411

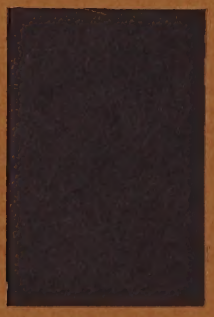
Patient Statistics

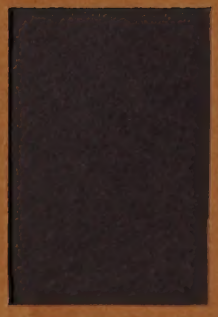
Number of beds	471
Patients admitted	14,424
Patient days	165,303
Average stay	11.5
Surgical procedures	6,860
X-rays taken	52,658
Radiation therapy treatments	12,438
Laboratory tests	959,809











The New England Deaconess Hospital

Is affiliated with
Harvard Medical School, and is
fully accredited by
The Joint Commission on Accreditation
of Hospitals

Member of
American Hospital Association
New England Hospital Assembly
Massachusetts Hospital Association
Council of Boston Teaching Hospitals
American Protestant Hospital
Association
Association of American Medical
Colleges, Council of Teaching Hospitals
International Union Against Cancer
Association of Cancer Institutes

Residency programs approved by
American Medical Association
Internal Medicine
Pathology
Podiatry
Radiology
Surgery
Thoracic Surgery

School of Nursing fully accredited by
National League for Nursing
Massachusetts Board of Registration in
Nursing

School of X-ray Technologists
approved by
American Medical Association

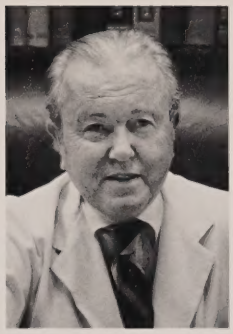
School of Medical Technology
approved by
American Society of Clinical Pathologists

Blood Bank Training Center
approved by
American Association of Blood Banks

School of Radiologic Technology
affiliated with
Northern Essex Community College

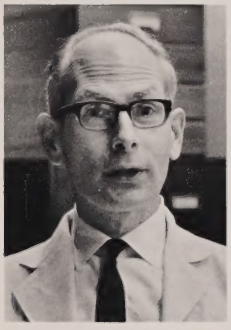
School of Nuclear Technology
affiliated with
Bunker Hill Community College

"We continue to be concerned about the increasingly burdensome controls..."



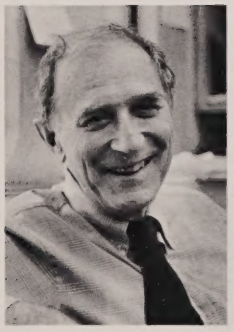
"Our activities continue to be involved with other departments and with other institutions..."

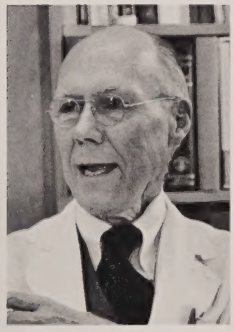
"Efficient laboratory medicine is developed through association with other institutions..."



"1977 was a year of transition..."

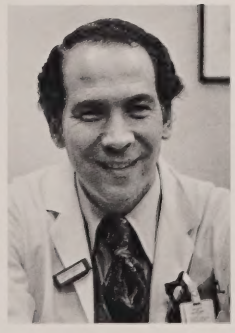
"The Laboratory's policy includes generating interest through affiliated institutions and beyond..."





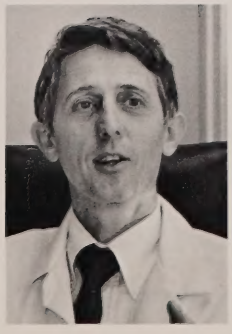
"Cost containment will come only if the doctors work toward a common goal..."

"Of importance to the Friends of the Deaconess is 'service'..."



"Patient care, education and a multifaceted research program continue to be major activities..."

"We must consider cost to benefit ratios when choosing test procedures..."



"The complexities of operative procedures have shown continual growth..."

A Year of Transition

Last year saw the completion of two major building projects—the Meissner Building containing our hospital's pathology laboratories and radiation treatment facility as well as our School of Nursing facility, Audrey K. Kennedy Hall. It culminated over a decade of

expansion which started with the Lowry Medical Office Building in 1964, and included Shields Warren Radiation Laboratory in 1965 and the Farr addition in 1972. In contrast, 1977 was a year of transition; a year where the emphasis was more on planning, organizing and managing rather than building.

1977 Highlights

- Revenues reached a new record at $53,360,416.
- We enjoyed a modest operating surplus of $170,489.
- Trustees' Insurance Committee reviewed hospital coverage.
- Filed our Long Range Plan with the various regulatory bodies.
- Dedicated Audrey Kennedy Hall and the new Radiation Therapy Unit in Meissner Building.
- Materials Handling Center opened.

1977 Results

The year just ended was a good one for the Deaconess. Revenues reached a record level due largely to the addition of 18 beds in the Diabetes Treatment Unit. Occupancy remained very high throughout the year and averaged 93.74%, probably the highest figure for any Boston teaching hospital. As a result of careful budgetary controls, we ended the year with a small surplus.

What these figures don't reflect is that increasing regulatory pressure coupled with continuing inflation (even at a declining rate) have made day-to-day financial operations more difficult. During the year our Trustees found it necessary to transfer $400,000 from reserves to working capital and departmental requests for new equipment have had to be carefully reviewed in the light of the limited funds available for capital expenditure.

Insurance

Our Insurance Committee has almost completed a thorough review of all of the hospital's coverage during the year. As a result the hospital's plant and equipment coverage were substantially increased (at only modest cost) to reflect current replacement value, deductibles were adjusted to save premium dollars, fiduciary insurance was purchased to cover potential liability under the relatively new Employees Retirement Insurance Act of 1974, fidelity coverage increased and insurance on the Lowry Medical Office Building was changed.

We are pleased to report our malpractice and general liability carrier, Controlled Risk Insurance Company, completed its first year of operations with very encouraging results.

Planning and Projects

Our Long Range Planning Committee spent most of the year working on the development of a one-year and five-year plan for the hospital as mandated by Public Law 93-641. This plan was reviewed and approved by the Trustees in September and has been filed with the appropriate planning agencies. With similar plans also available from all of the other hospitals, a master plan for the entire state will be developed with the objective of avoiding duplication and competition among hospitals, and thus containing the cost of hospitalization.

Shortly after our fiscal year end we received final approval for our proposed addition to the Pilgrim Road garage from the Public Health Council. The local Health Systems Agency had recommended the project be given a Determination of Need and both the Boston Redevelopment Authority and the Fenway Area Project Planning Council have supported this project. We hope to break ground in early spring of 1978 and complete the addition before the year-end. While the additional parking spaces will not meet our peak requirements, it should provide significant relief to what is a very tight situation currently.

We opened our new Materials Handling Center early in calendar 1977 and it is more than living up to our expectations. Most of the truck traffic has been diverted from the hospital's main entrance on Pilgrim Road and the increase to 8400 square feet of storage and handling space has led to much more efficient distribution of the thousands of items delivered to the Deaconess each week.

Other Matters

After 30 years of service Miss Ellen Adams retired last April. She started in our employee relations department in 1946, and at the time of retirement was Associate Director of the hospital. We will miss Ellen's understanding, efficient manner and her warm smile very much.

During the year the Deaconess accepted an invitation to join the Harvard Medical Center, the vehicle through which the Harvard teaching hospitals

work together to solve mutual problems and develop plans for joint ventures.

For many years most of the Longwood Area hospitals have received their steam and chilled water requirements from the so-called Harvard Power Plant, which was originally built in 1905. Although remodeled and modernized many times over the years, this seventy-two-year-old facility can no longer meet the growing needs of its users. After a number of years of study and planning by Harvard and the neighboring institutions, a

replacement plant which will also generate electricity is under construction on a site across Brookline Avenue from the Deaconess.

Dick Lee was the third Deaconess Administrator to be chosen Chairman of the Massachusetts Hospital Association last May. We are unaware of any other hospital which can lay claim to this honor!

In Memoriam

On September 24, 1977 Francis W. Capper, a former President and Board Chairman of the New England Deaconess Hospital, passed away. His long and distinguished service to our hospital extended well over 40 years. He was kind and understanding to all; he was firm and steadfast when needed; he saw the Deaconess through the depression years as Treasurer and guided the hospital through the expansion years of the 1950's and 60's as Chairman. We have lost a great friend.

In Conclusion

We continue to be concerned about the ultimate consequences on the health care industry of increasingly burdensome controls. Each year it is becoming more difficult to maintain the patient care standards which we espouse.

We are thankful for the dedicated service of all those on our staff who in turn make our hospital the fine institution it is. Also, we wish to express our thanks to our Trustees, the Friends, the members of our medical staff and our management team for their continued support during the past year.

C. Vincent Vappi
Chairman

Laurens MacLure
President

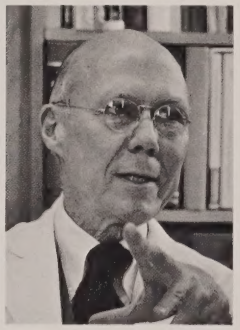
Multi-Institutional Relationships

Patient Services	Joslin Clinic Lahey Clinic Overholt Thoracic Clinic Roxbury Dental Medical Group Quigley Memorial Hospital Peter Bent Brigham Hospital Sidney Farber Cancer Center Mass. Mental Health Center The Faulkner Hospital New England Baptist Hospital Children's Hospital Medical Center Boston Hospital for Women Fenway Community Health Center
Planning Support and Service	Area 29 E.M.S. Hospital Committee Council of Boston Teaching Hospitals Metropolitan Boston Hospital Council Harvard Medical Center, Inc. CRICO MASCO
Education	Harvard Medical School Joslin Clinic Lahey Clinic Boston Hospital for Women Children's Hospital Medical Center Peter Bent Brigham Hospital Roxbury Dental Medical Group Mount Auburn Hospital The Faulkner Hospital Veterans Administration Hospital, Manchester Cambridge City Hospital Massachusetts General Hospital Pondville State Hospital Tufts New England Medical Center Bedford V.A. Hospital Northeastern University Simmons College Boston University Boston College Northern Essex Community College Bunker Hill Community College Medfield State Hospital Quigley Memorial State Veterans Hospital
Research	Harvard Medical School Peter Bent Brigham Hospital Sidney Farber Cancer Center Joslin Clinic Lahey Clinic Blood Research Institute

The internal operations of the Department of Medicine have proceeded in an orderly and predictable manner this year. It would be tempting to predict that all is well. However, forces outside of the Deaconess which threaten to alter the traditional manner in which we deliver care are of such magnitude it would be a dereliction of duty not to forecast their arrival nor to prepare reasonable alternatives. The most strident of these constraints is the demand that the medical profession demonstrate improved cost effectiveness. Despite the possibility that the quality of care may suffer in the event of an arbitrary imposition of a cap on spending, the public sector no longer will permit an annual spiral of hospital costs that averages double the inflation rate. As yet, none of the health planners nor politicians has come up with a unified proposal of how this can be done. They are equally contradictory with respect to the forces which have caused escalation. On a single day in Washington I recently was told that residency programs were an example of irrelevant (educational) costs being unjustly put on the health care industry; and conversely that residency programs were a form of indentured-service (not education) that resembled slave labor. The existence of such disparate and conflicting iterations from the critics of medicine in no way lessens the urgency for the profession to circle its wagons and prepare for the attack. Until now medicine has been primarily concerned with whether the enemy was outside or within the circle.[1]

The nature of administering health care in a hospital is so complex and multifaceted it is difficult to ascribe either good or bad outcome to a single individual or service. It is the massiveness of this team effort that causes a single voice often to get lost. Cost containment will come only if the doctors work toward a common goal. Derizon[2] suggests four ways in which physicians can make such an impact.

1. They can control the in-flow of the new technology. The burgeoning tests and equipment with which physical and chemical disciplines are flooding medicine appear limitless. Some of the machines unquestionably improve and simplify diagnosis and treatment. Yet often the methods they were designed to supplant remain with us. Thus, a new expense is merely added to an old one.



It behooves us, as professionals, critically to examine each new technique as it reaches applicability. We should appraise its potential in terms of financial as well as scientific merit. Then if approved and accepted, we should mandate its use by the entire staff.

Good post-doctoral training has been said to be the only self-destruct system which is regularly practiced. Hospitals carefully train young doctors to go out into the community and do the very things which previously could be done only in that institution. In some areas of the country this has noticeably affected referral of patients into teaching centers. The principal sheet-anchor which has balanced this catabolic effect has been a flow of new technology not yet available to small communities. If this principal cause of run-away costs is now put in the public domain to control in the manner of the CAT-scan, the role of tertiary hospitals will be compromised increasingly.

2. They can control over-utilization of services. Internal studies suggest that around 25 percent of the daily charges to a medical patient at the Deaconess are generated through the orders written by house staff on teaching floors. Such orders cover a wide range of diagnostic laboratory tests and x-rays plus many treatments such as respiratory support and physiotherapy. This costs about $50 per patient per day. The senior staff in the department have an almost comparable record that averages about $48 per patient per day on non-teaching floors where they write most of the orders. Although such data is as yet incomplete and should not be over interpreted, the preliminary findings suggest first, that the young house officers who are still in a learning position require extra factual data to proceed with treatments, but that most of the data they seek involves automated, relatively inexpensive chemical tests; and second, that the more expensive procedures like radioactive scans, ultrasound, endoscopies and organ biopsies may be as uncritically applied by the senior staff to whom they are relatively new as by the house staff to whom they are equally new.

In the absence of any incentive to be sparing in the use and abuse of technology, it behooves us to make cost effectiveness a keystone of the educational process for all levels of staff. Such an approach was instituted this past spring and hopefully will prove effective. Failing that, outside controls may become inevitable.

3. They can decrease the duration of stay. If each patient were discharged a single day earlier, an immediate saving of approximately 8% would accrue to third party carriers. Regrettably, a physician meets constant rebuffs from the system when he tries to apply this type of saving: "...the family can't pick up the patient tomorrow," "...appropriate drug or discharge orders have not been written," "social service hasn't completed transfer arrangements." In an atmosphere where there is little success and still less incentive, the physician cannot be faulted for losing his zeal. In an effort to meet such ennui, the Johns Hopkins Hospital recently attempted to apply effective managerial methods borrowed from the business world. They have decentralized all authority and put cost responsibility into the hands of each clinical service which then must

1) Platt, Fred; Panel Discussion: National Association of Directors of Internal Medicine, Washington, D.C., November 1977.

2) Derizon, Robert A.; Plenary Session: American Association of Medical Colleges, Washington, D.C., November 1977.

adhere to a monthly profit and loss sheet. Despite massive resistance by hierarchical forces which prefer to remain remote from direct accountability, the system appears to be working. Imaginative innovations of this type must be explored in the delivery of medical care if free enterprise is to survive the stultification of a payment system which reimburses inefficiency and efficiency alike.

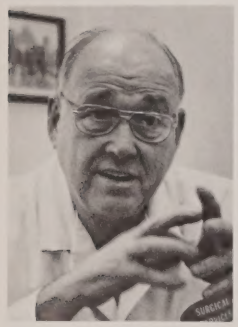
4. They can discontinue support of terminal cases. From the moment a student enters medical school until he retires from practice a half century later, he is steeped in a tradition of supporting and extending human life. Until recently his preoccupation with scientific training has usurped his active involvement in decisions regarding terminal care. With appropriate reaffirmation of a physician's priestly role as a reliever of pain and supporter of functional viability this important responsibility has once again been accepted by medicine. Both the social mores of the country and the weight of judicial decisions clearly indicate that continuation of decerebrate life by sophisticated support systems is untenable financially and indefensible ethically. More progress still can be made particularly by lessening the duration of stay in high-intensity units. The recent acceptance by the staff of a system of controls and advisory committees to help overcome the natural reluctance of both family and physician will do much to reduce further this resistance.

Times are taut. Lines have been drawn. American medicine which has contributed so much good to the world is now being challenged as an elitist, racist, recklessly expensive cult. It is our task to rise to this challenge, to put our system in its best possible order and then to remind the world that our professional training as physicians qualifies us only to treat the sick, not to correct the social ills of an intemperate world. We are neither responsible for, nor qualified to correct, the poor housing, malnutrition, alcoholism and allied social ills which reflect the individuality of man.

James L. Tullis, M.D.
Chairman

The Deaconess has avoided duplicating the primary care services offered in the ambulatory departments of its neighboring institutions. Rather, its strategy is and will be to encourage the delivery of primary and ambulatory care in the more appropriate and less costly settings, such as the Roxbury Dental and Medical Group, a community based, community controlled primary care facility whose efforts we support. This assures that primary services are available in a more convenient location and at much lower cost than would be possible in Deaconess outpatient facilities. Concurrently, the Deaconess provides tertiary care capabilities for RDMG's adult patients who need hospitalization.

In the Annual Report a few years ago I showed graphs depicting our continual growth in surgery over the past ten years. This trend has continued. The number of complex operative procedures and subsequent increased hours of operating



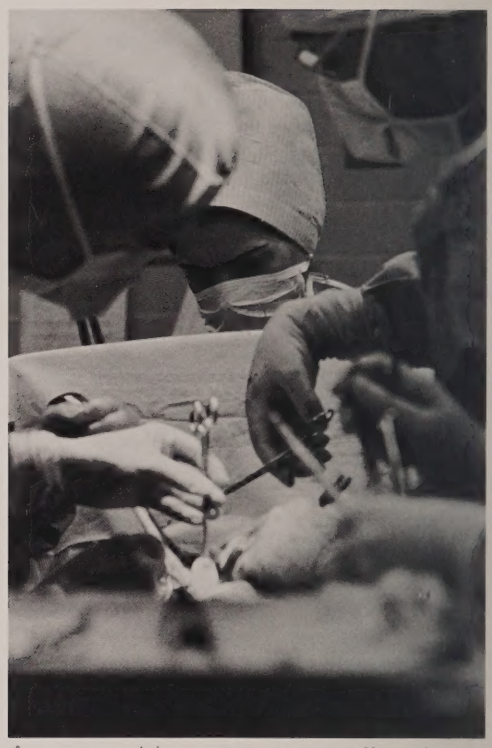
room time have caused us to outgrow our present facilities. Therefore, as my 1977 report, I wish to discuss our plans for the future.

Originally Central 4 and 5 (now Farr) were built as Operating Room suites and Recovery Room. The fourth floor carried the surgical load until the Farr building was completed. The fifth floor was used for other purposes, i.e. central supply, administrative offices for surgical services, etc. All of the operating rooms are now over twenty-five years old and need modernization. Our plan is to remodel our operating rooms on both Farr 4 and 5 with two rooms for ambulatory surgery. This will be adequate for the hospital's size, although the impact of more surgery will be felt strongly in the Recovery Room.

We also plan to encourage ambulatory surgery. We hope to accomplish this by reorganizing two ambulatory operating rooms for patients not needing general anesthesia on Deaconess 2 as well as using two operating rooms on Farr 5 for ambulatory patients requiring anesthesia. Various alternatives are currently being considered for alleviation of our fully utilized intensive care unit.

Much time and effort have been given to formulating this plan by the Operating Room personnel and the hospital administration. The Trustees have responded favorably to our request. To all I am grateful.

Cornelius E. Sedgwick, M.D.
Chairman



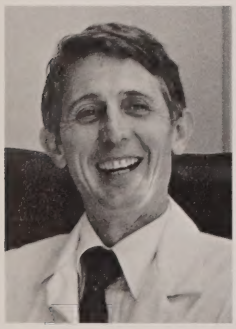
Among residency programs offered, surgical residents in the Deaconess/ Harvard Surgical Service receive their training here, as well as through rotations at Boston City Hospital, Cambridge City Hospital, Faulkner Hospital, Mt. Auburn Hospital and the Veterans Administration Hospital, Manchester, New Hampshire.

Surgical procedures at the Deaconess are increasingly sophisticated and time consuming. Surgeons from the general staff and from affiliating clinics perform all types of surgery including intricate eye surgery, brain and chest surgery and kidney transplants. More and more, minor surgery is being done on an ambulatory basis.

The Department of Diagnostic Radiology has expanded physically and professionally during the past year. The Ultrasound Section is now headed by Dr. Florencio Hipona, devoting his time to the supervision and interpretation of abdominal and cardiac ultrasound. Dr. Hipona, a Clinical Professor of Radiology at Harvard Medical School, is a well-known Cardiovascular Radiologist with special interest in correlating the various diagnostic imaging modalities used in the diagnosis of heart disease such as echo-cardiography, radionuclide studies and angiocardiography.

Dr. Miguel Alday has also joined the Radiology Staff. Dr. Alday is a General Radiologist with particular interest in Urologic Radiology.

The Nuclear Medicine Section has moved to its permanent location on Baker 2. The added space has permitted



Nuclear Medicine to improve and expand service in evaluating cardiac, pulmonary, endocrine, and renal disorders. Nuclear Medicine is currently involved in a clinical research program comparing the efficacy of emission computerized tomography to the conventional transmission computerized tomography in evaluating intracranial disease.

Remodeling of the existing space in the Farr building is progressing. The new arrangement will expedite patient flow and permit greater flexibility in patient scheduling, thus allowing us to continue to give prompt efficient service with no compromise in patient care.

Continued progress is being made in our contribution to the hospital's teaching program. The Diagnostic Radiology Residency Program has been reinstated with two residents beginning the first of three years in July, 1978. The Ultrasound and Angiography Fellowship continues to be a sought after position.

The department actively participates in the teaching program of the medical and surgical house officers with daily scheduled rounds reviewing current cases as well as weekly didactic conferences where special problems are discussed. In addition, an elective rotation in the Radiology Department is offered to provide a more in-depth appreciation of radiology's role in the approach to clinical problem solving. Radiology Grand Rounds, a bi-weekly conference with invited speakers presenting talks on new techniques and ideas, affords both the radiology staff and interested clinicians an opportunity to keep abreast of technological and clinical advances in this rapidly changing specialty. Medical students now have an opportunity to spend a month of elective rotation in the department. A radiological technologist training program with Northern Essex Community College and a Nuclear Medicine technology program with Bunker Hill Community College have been initiated, continuing the traditional commitment of the New England Deaconess Hospital to the education of health professionals.

With spiraling cost of equipping and staffing of an X-ray facility, the great challenge for radiology in the years ahead will be to provide efficient high-quality service at an affordable price. The radiologist and his clinical colleagues will have to use discretion in the application of the vast armamentarium of investigative procedures and consider cost to benefit ratios when deciding which test should be performed in which order so as to eliminate delays and unnecessary duplication.

Melvin E. Clouse, M.D.
Chairman

How should the Department of Pathology react to a steady yearly increase in laboratory test volume unassociated with bed occupancy rates and with inadequate allowance for such a volume

increased by external regulation? The simple answer is that we have made every effort to supply whatever high quality laboratory medicine is needed. It is apparent that at least part of the increasing demands on the department, including the major increase in night and evening work, represent an index of the increasing sophistication of care needed for the complex diagnostic and management problems which Deaconess patients present.

The difficulty in allocating resources as an extension of outside regulation is only an additional factor reinforcing the concept that the hallmarks of successful laboratory medicine include efficiency and economy as well as clinical usefulness, accuracy, reproducibility and speed. Various new procedures have been added to the armamentarium scattered across the laboratory sections, and some of the procedures which were added in the previous year have expanded greatly. Some of the technology-intensive programs have increased considerably, which is not as easily done as it is with automated procedures. Even the automated procedures are restricted, however, by the inclusion of the more sophisticated instruments in the certificate of need process. Resourceful marshalling of forces and cooperative effort help to mitigate arbitrary restriction and can result in better medicine. A simple example is the fact that the hospital community blood donor program provides 80 to 90 units of blood a month and the replacement program, 100 units.

Another way to efficiently develop the volume, expertise and economy necessary for the best laboratory medicine is to develop associations with other institutions and organizations in both practice and education. The hospital has done this well in the combination of the clinics and the independent staff, an essential relationship which Pathology has supported wholeheartedly. In addition, the department has extended the concept to the long term association with the New England Baptist Hospital, which has produced better and more inclusive laboratory medicine in both institutions. That the Deaconess is only one of several institutions which educate Harvard medical students is general knowledge but few realize as well how effective it has been for the major teaching hospitals of Boston together with Northeastern University to train cytotechnologists as a single school. The medical technology school is a Deaconess-Baptist-Northeastern University program and the blood bank school is a Deaconess-Northeastern unit. Even the majority of the residents in pathology come to the Deaconess after training elsewhere first. The National Bureau of Standards has a program with the Deaconess on sodium, potassium, lithium, magnesium and chloride. The Deaconess and the Mayo Clinic are the American members of the "seronorm group", working with two Scandinavian laboratories. In addition the Deaconess works closely with national pathology societies. At the annual meetings of The American Society of Clinical Pathologists and the College of American Pathologists our department puts on at least four half-day or whole-day workshops, which are also given at other times. In addition, we have a week-long course in surgical pathology sponsored by the ASCP and which is now given twice a year.

In this limited report, the research interests of the department can be designated only as diverse and as predominantly clinical research and the details left for another time. The addition of several new staff members adds considerable dimension to the department for service, research and teaching: Dr. Virginia H. Ross, Dr. Karoly Balogh, Dr. E. Tessa Hedley-Whyte (who shifted from consultant to full time staff), Dr. Ann W. Crosson (who returns after two years in England), Dr. Sanford R. Kurtz, Dr. Paola C. DeGirolami and Dr. Benjamin Gerson. Dr. David Skinner retired after more than ten years of a happy and productive association. Dr. Rodger C. Haggitt left to become the chief of surgical pathology at the huge Memphis Baptist Hospital. Dr. S. Beck Weathers and Dr. Khalid M. Butt left for other positions in Dallas, Texas and in Lynn, respectively.

Merle A. Legg, M.D.
Chairman

The department of diagnostic radiology, like other departments of the hospital, participates actively in the teaching programs of the medical and surgical house officers with daily scheduled rounds reviewing current cases as well as weekly didactic conferences where specific problems are discussed. Medical students have an opportunity to spend a month of elective rotation in the department. In addition, a radiological technologist training program with Northern Essex Community College and a Nuclear Medicine technology program with Bunker Hill Community College have been initiated continuing the traditional commitment of the New England Deaconess Hospital to the education of health professionals.

Continued growth in service and education is the hallmark of the Department of Pathology. Cooperative efforts continue with all the institutions which constitute our medical community including the general staffs of the Deaconess and Baptist Hospitals, the Lahey, Joslin, and Overholt Clinics. Shown here is a multichannel Auto-Analyzer able to run a chemistry screening profile of 18 consecutive tests from one patient serum sample.

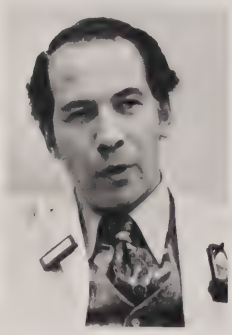
Relationships with other institutions in the Harvard Medical area led to the formation of the Joint Center for Radiation Therapy. Research activities in the Joint Center include clinical research, biologic laboratory research and physics research. While most of these studies must be conducted in the laboratory, successful techniques can only reach full realization when they are applied to benefit patients.

During the last year, 2141 new patients were seen at the Joint Center for Radiation Therapy. Of these, 690 patients were from the New England Deaconess Hospital. The facilities of the Joint Center for Radiation Therapy were expanded with the opening of a new simulator and technical support services at the Sidney Farber Cancer Institute. This facility provides much needed additional simulator capacity required for our increasing patient number, and it will also allow simulation of inpatients from the New England Deaconess Hospital using the tunnel between the hospital and the Sidney Farber Cancer Institute.

The professional staff of the Joint Center for Radiation Therapy has been expanded with Drs. Leslie Botnick, Joel Greenberger and Jay Harris becoming members of the staff. Dr. Jay Harris joins Drs. John Chaffey, J. Robert Cassady and Ralph Weichselbaum of the Joint Center located in the Radiation Therapy Department in the New England Deaconess Hospital. Dr. James A. Belli has been made Professor at the Harvard Medical School, Dr. Goran Svensson has been made Associate Professor at the Harvard Medical School and Dr. Ralph Weichselbaum, the Assistant Professor at the Harvard Medical School. The Joint Center, while disappointed with their leaving, is especially proud of two of the staff who have become Chairmen for the Departments of Therapeutic Radiology at other institutions. Dr. Anthony J. Piro has been made Professor and Chairman of the Department of Therapeutic Radiology at Tufts New England Medical Center. Dr. Robert L. Goodman has been made Associate Professor and Chairman of the Department of Radiation Therapy at the University of Pennsylvania School of Medicine.

Research activities in the Joint Center included clinical research, biologic laboratory research and physics research. The clinical research continues to indicate excellent results in the treatment of breast cancer with radiation without mastectomy. Hodgkin's disease is also an important area of investigation for the Joint Center. The prognosis in this disease is now excellent and investigation is concerned with the appropriate use of chemotherapy and radiation therapy in the treatment of this disease. Laboratory investigations are concerned with the viral etiology of tumors, the surface characteristics of tumor cells and the response of the dose-limiting normal tissues particularly the bone marrow and of tumor cells to radiation and chemotherapy.

The division of physics continues its research on computer-controlled radiation therapy using the Mevatron 12 linear accelerator at the New England Deaconess Hospital. Pilot studies of the



first type of dynamic treatment have been completed, and it is expected that this technique will be available for patient treatment during the next year.

Patient care, education and a multifaceted research program continue to be major activities at the Joint Center for Radiation Therapy. These research programs extend from basic biologic observations to clinical investigations resulting in changes in therapy. The goal is to improve the treatment of patients without the loss of function or cosmesis. This requires the development of physical methods, biologic understanding and the judicious use of radiation and chemicals. These activities must be studied in the laboratory, but successful techniques can only reach full realization when they are applied to benefit our patients.

Samuel Hellman, M.D.
Director

The Shields Warren Radiation Laboratory serves as a research center for the New England Deaconess Hospital and for certain staff members from other Harvard affiliated hospitals of the Longwood Avenue complex. Its broadly

based programs deal with the use of ionizing radiations such as X-rays in both treatment and diagnosis, and also with their potential hazards in industry. Much of the work relates to cancer, but much of it is important for general medical practice. The bulk of the Laboratory's funding comes from two grants by the National Institutes of Health, one for a Cancer Research Center, the other for a Radiological Research Center.

The Laboratory's policy has always been to carry out projects within its own walls, but in addition, to generate interest and action in radiological practice and research elsewhere through extensive connections with Harvard Medical School, affiliated institutions, and beyond.

Experimental Nuclear Medicine

Experimental Nuclear Medicine, under Dr. James Adelstein, is concerned with the use of radioactive chemicals for both diagnosis and treatment. The radionuclide (radioactive atom) most commonly used in current diagnostic studies is technetium-99m, a short-lived isotope of an element that does not occur naturally. Since little is known of its chemistry, workers at SWRL in collaboration with those at the M.I.T. Department of Chemistry are studying it. Among their accomplishments this year has been the preparation and analysis of the first crystals of the technetium atom. The radiopharmaceutical chemistry group, using technetium, has succeeded in labeling blood platelets and white cells in collaboration with investigators at the Sidney Farber Cancer Institute and in the Department of Medicinal Chemistry of Northeastern University. Experiments in the treatment of cancer, using cultured cells and animal tumors, are conducted in close cooperation with the Joint Center for Radiation Therapy. In collaboration with the Department of Chemistry at Boston University, studies have been continuing over a period of years on the fundamental chemical changes that occur when ionizing radiation is absorbed by chromosomes. Under the usual circumstances of cancer treatment, these changes must be the initial ones that ultimately lead to the death of the cancer cells.

Experimental Pathology

This department, under the leadership of Dr. Shields Warren, maintains its office in the laboratory. A description of the department's research appears in the Cancer Research Institute section of this report.

Experimental Radiology

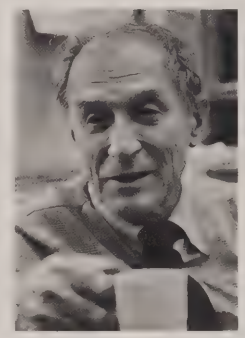
Experimental Radiology, under the direction of Dr. Herbert Abrams, performs a broad range of investigative work, with a major concentration on the vascular system. Vascular problems occur in a great variety of diseases including cancer, and some of the problems relating to blood vessels in cancer have their counterparts in noncancerous diseases. While a significant part of Dr. Abram's experimental radiology program is done at the Laboratory, much of it is carried out through the collaboration of Laboratory staff with workers at other institutions. These include Harvard Medical School, the departments of medicine, surgery and pathology at the Brigham, Children's and Massachusetts General Hospitals, Cornell Medical School, the Princeton Institute for Medical Research, the National Cancer Institute, and also the Upjohn and Norwich Pharmaceutical companies.

Experimental Radiation Therapy

The research of the department which is directly related to the Joint Center for Radiation Therapy, under Dr. Samuel Hellman, is described in that section of the report.

Radiation Biology

The Radiation Biology group, under Dr. Henry Kohn, has been evaluating the genetic risks of radiation exposure—how exposure of a parent, depending on dose, might affect the health of the child. It is also studying how mutations may affect the function of the system that controls cellular immunity. The mutation rate-hazard experiments carried out in mice have suggested that radiation risk



may be considerably less in certain cases than has hitherto been thought in public health practice. More than 40 lines of mutant mice, carrying a separate mutation, have been or are being established. Stocks of these lines have been sent to some 15 other laboratories in this country and abroad for further study. A major segment of this SWRL program involves a collaborative plan in which groups at the University of Melbourne, Einstein Medical College (New York), and the Netherlands Red Cross Laboratory (Amsterdam) jointly participate.

Henry I. Kohn, M.D.
Director

The Shields Warren Radiation Laboratory is devoted to radiological research including the use of x-rays, gamma rays and radioactive isotopes, with special emphasis on problems associated with cancer. The Laboratory's organization is unique in that, although owned and operated by the Deaconess Hospital, its senior scientific staff comes from the faculty of Harvard Medical School irrespective of their hospital affiliation. Thus, the Deaconess Hospital contributes to radiological research and to the practice of therapeutic and diagnostic radiology throughout the entire Harvard Medical area complex as well as within the Hospital itself

With the use of a Jung Bone Microtome (screen above), the Cancer Research Institute in cooperation with the Department of Pathology performs the very specialized service of cutting undecalcified bone for the New England Deaconess Hospital as well as other institutions throughout New England and New York.

Continuing the trend in recent years toward more clinically oriented cancer research, the activities in the Cancer Research Institute have continued to be increasingly involved with other departments of the hospital and with other institutions. Seminars, held monthly from October through May, present speakers from other institutions as well as from the Institute's or Hospital's own staff at lectures open to members of Boston's scientific and medical community.

Research support, entirely from federal agencies at the present time, continues to increase, thus enlarging scientific programs and indicating the serious need for expanded research space to serve the Hospital's requirements. A study has been initiated on plans for an addition to the existing Cancer Research Institute Building, and sources of funding for its construction are being investigated.

Biochemistry

Under Dr. W. Eugene Knox, this group has developed the first coherent views about the chemical diversity of neoplasms. This has led to predictions of which enzymes cancer must contain and to a search for those enzymes in the blood of patients where they could be used as markers of the disease. The institutional project on the early diagnosis of pancreatic cancer focuses this biochemical work along with the more clinical collaborative studies that are necessary. As a professorial unit of the Department of Biological Chemistry at Harvard Medical School, the group also serves a teaching function, primarily for graduate students and postdoctoral fellows. During the past year, there has been a notable increase in undergraduate students from Harvard, Radcliffe, M.I.T., and Yale taking short practical courses here.

Clinical Studies

Research into the early diagnosis of pancreatic cancer, part of the National Pancreatic Cancer Project directed from the Louisiana State University Medical Center, has been underway for over a year, involving several departments of the Institute, the Hospital, and collaborators at Boston City Hospital. Twenty-five adult patients with pancreatic carcinoma and twenty-eight control

patients have been studied so far. In addition to information gained from routine studies such as upper gastrointestinal series and endoscopic cannulation of pancreatic duct, additional knowledge has been gained by the assay of tumor markers from the blood of these patients.

Experimental Pathology

Experimental Pathology, under Dr. Shields Warren, has continued to work on problems related to radiation safety

and radiation carcinogenesis. Radiation is highly effective in inducing leukemia in mice in which viruses play an important part as does injury of the thymic gland. Radiation of rats, in which viruses play a less obvious part in leukemogenesis and leukemias related to the thymus are much less frequent, leads to some inhibition of leukemogenesis. This study is being supported by the National Cancer Institute.

The long-range experiment of radiation carcinogenesis in parabiont rats, now nearly completed, has implications for radiation safety regulations and is supported by the Energy Research and Development Administration. The department has established two hormone-producing transplantable tumors, one a potent producer of insulin, the other of epinephrine, used by a number of institutions here and overseas. Cooperative research on hormones and radiation effects has been continued with Harvard's Laboratory of Human Reproduction.

The Department has had four scientific articles published this year and was fortunate in having as volunteers Dr. Olive Gates and Mrs. Etta M. Horblit.

Growth Laboratory

Investigation of the mechanism by which cancer alters the biochemical composition of non-involved tissues in the host rat was continued under the leadership of Dr. Olga Greengard. Observations on hepatic and splenic enzyme changes in both parabiotic partners after implantation of a tumor into only one member of the parabiont pair indicate that the "distant" effects of neoplasms are mediated by humoral factors. These experiments were done in collaboration with Dr. Shields Warren.

Dr. Greengard, a faculty member of the Department of Biological Chemistry, Harvard Medical School, gave a course this year on "Metabolic Regulations and Biochemical Differentiation." As a member of the Board of Tutors in Biochemical Sciences, she also teaches at Harvard College.

Nutrition

A major part of medical care is related to understanding the deranged metabolism associated with cancer, injury and other illness. Infections represent the major obstacle to improvement in morbidity and mortality.

Studies in this laboratory under Dr. George Blackburn have produced medical therapies effective in reversing 33% to 50% of acquired anergy in properly selected cases. With metabolic and nutritional support, most surgical patients vastly improve in their response to operation using the techniques of nutritional support developed in this laboratory.

Besides the intense multidisciplinary intramural program in which the department is involved, the Nutrition Laboratory also carries on joint programs with M.I.T. Department of Nutrition and Food Science, the Shriners' Burn Center, Children's Hospital Medical Center, the Sidney Farber Cancer Institute, and the U.S. Army Infectious Disease facility at Fort Detrick, Maryland.

Transplantation and Immunology

Under the leadership of Dr. Anthony P. Monaco, four areas of research were investigated in 1977. Three of these studies were continuation of projects undertaken in previous years, one in collaboration with Dr. James Gozzo of Northeastern University as part of the National Bladder Cancer Project. The new area of investigation is the development of a model in the rat to study the genesis of colon cancer. A model has been developed which will make it possible to study the effect of various carcinogenic agents on an isolated vascularized section of colon without affecting the rest of the intestinal tract.

Tumor Registry

As one of the few computerized registries of hospital patients that have been fully accredited by the American College of Surgeons, the New England Deaconess Hospital Registry receives visits by planners from many parts of the country. Marion Sciarappa, Registrar, has handled these inquiries and a complete reorganization of the Registry personnel during the year, without loss of continuity. Demands for patient and statistical information from physicians, hospital administrators, and other registries have continued to increase and so far are promptly answered.

Research Administration

Clinical research at the Deaconess has seen substantial expansion during the past several years, particularly in the sphere of oncology. Compared with 1973, when approximately 25 protocols were active, there are 150 clinical studies currently ongoing. Of these, approximately 95 are cancer-related, predominantly involving chemotherapeutic trials.

As a consequence of this expansion, the Clinical Protocol Office was established in January, 1977, jointly responsible to the Cancer Committee and the Committee on Clinical Investigation. The office is under the medical directorship of Dr. Jacob J. Lokich, Chief of Oncology, and administered by Candice Fullwood. The office is the center of operations for the Hospital's Tumor Board and a data base for all new inhouse cancer patient admissions is maintained. During the past year alone, data on 1,350 cases

were accrued. The office registers and monitors all chemotherapy inpatients and outpatients, and despite its brief span of existence, a data base on this group of patients of approximately 450 cases has already been established. The office also serves as liaison for oncologic activities between the Deaconess Hospital and the Sidney Farber Cancer Institute and the Lahey Clinic.

This was a year of change for the Office of Grants and Contracts. During the year, the office prepared applications and budgets for 20 grants and contracts for the Departments of Medicine, Pathology, and Diagnostic Radiology, as well as for the Institute. The office is currently managing 22 active grants and contracts awarded from six federal and private agencies and institutions in the amount of $1.2 million, one of the highest levels of funding the Institute has ever attained. In addition, the office has continued its active participation in several national and international organizations and surveys involved in cancer research and control.

William V. McDermott, Jr., M.D.
Scientific Director

The meaning of a word often depends upon its usage and as in any group some words become more highly significant than others. Of importance to the Friends of the Deaconess is the word "service"

both to the patients and to the New England Deaconess Hospital itself.

We work hard to continue this service and we have developed a tenacious ability to survive and grow. Women have learned to prorate their time, making extra hours quality hours by using them to do needed service and learning that just two or three hours a week shows a great deal of concern and a strong degree of commitment to others.

A proud moment for the Friends was being honored to receive the "Group Volunteer" award by the National Association of Health and Welfare Ministries of the Methodist Church presented at Philadelphia on March 6, 1977.

During this past year, our third and final payment of $50,000 was paid to the School of Nursing Building Fund.

From the efforts of our Bazaar, Evening at Pops, and Church Gifts from the Methodist Church, we presented a check to Miss Howland for her scholarship fund of $7,150.21.

Income from the Gift Shop and the Thrift Shop made it possible for us to donate $10,000 for additional equipment needed for the School of Nursing and $50,000 for eight print-out machines for the Recovery Room as well as monitoring units and attachments for the Heart Surgery Department.

We are indeed indebted to our Volunteers for their efforts during the year. Without their interest and support these figures would not have been possible.

A year ago approximately $5,000 in donations were received in memory of Mrs. Sheldon Wardwell. An ad hoc committee was appointed to work out the details of a suitable tribute to her at the School of Nursing since nursing and nursing education were of special interest to Mrs. Wardwell.

Working closely with Miss Amelia Peabody, this committee approved a plaque with an accompanying piece of sculpture in the form of a student nurse as the focal point. At the close of the Annual October 1977 meeting a dedication ceremony was held on the terrace of the School of Nursing.

In June Miss Mary Foley, the guest speaker at this year's graduation exercises, challenged the New England Deaconess Hospital graduating class of nurses to "keep abreast of developments in their profession." This thought has stayed with me and I believe it applies to the Friends as well. Looking ahead at the broad aspects of the future, many changes will represent a challenge to us requiring sobering thoughts as to what part we can play in these changes. Life is a process not a set of static principles and abstractions and we are already seeing a great amount of stress in this regard. If we give these changes serious consideration and recognize that the year ahead will not be limited to just the Friend's problems, there will emerge an understanding and a shared vision of how we can be more realistically of service to the New England Deaconess Hospital.

We are proud to report these gratifying results.

Mrs. George A. Dempsey
President

Of the many "services" offered by the Friends of the Deaconess, all are not solely for the purpose of fund raising. Many are handled by enthusiastic and devoted volunteers who wish to bring comfort, diversion and pleasure to our patients. Shown above is the book cart which is circulated from the library to each patient floor at least once a week for patients' convenience. A handcraft cart is also taken to patients throughout the hospital two or three days a week filled with interesting and easy articles for patients to work on in their quiet moments.

New England Deaconess Hospital

Balance Sheets,
September 25, 1977 and
September 26, 1976

Assets

Unrestricted Funds		1977	1976
Current Assets:	Cash, certificates of deposit, etc.	$ 1,264,873	$ 2,706,172
	Investments (market value: 1977, $792,956; 1976, $803,312) (Note 1)	771,302	757,910
	Funds held in trust—cash and U.S. Treasury Bills (Note 3):		
	Construction funds		102,088
	Mortgage payment fund	450,000	450,000
	Accounts receivable—less allowance of $1,110,095 in 1977 and $997,050 in 1976 for uncollectible accounts	7,792,174	6,505,577
	Inventories of supplies—at cost	492,078	408,293
	Prepaid expenses, etc.	498,156	686,168
	Total current assets	11,268,583	11,616,208
Trustee Designated Funds	Cash, certificates of deposit, etc.		80,865
	Investments (market value: 1977, $243,855; 1976, $492,311) (Note 1)	238,774	447,680
	Total trustee designated funds	238,774	528,545
Funds Held in Trust—	Cash and U.S. Treasury Bills (Note 3):	1,764,543	1,588,399
Property, Plant, and Equipment—	Net (Notes 2 and 3)	32,206,545	31,701,517
	Total	$45,478,445	$45,434,669

Restricted Funds		1977	1976
Special Purpose Funds:	Cash, certificates of deposit, etc.	$ 77,329	$ 186,533
	Investments (market value: 1977, $689,362; 1976, $660,743) (Note 1)	673,989	626,692
	Grants receivable	778,251	482,916
	Total Special Purpose Funds	$1,529,569	$1,296,141
Endowment Funds:	Investments (market value: 1977, $3,100,377; 1976, $2,714,605) (Note 1)	$3,038,649	$2,430,646
	Real estate, equipment, and furnishings—at cost, less accumulated straight-line depreciation: 1977, $1,379,393; 1976, $1,324,323 (Note 4)	4,030,170	4,045,144
	Total Endowment Funds	$7,068,819	$6,475,790
Plant Replacement and Expansion Funds:	Cash, certificates of deposit, etc.	$ 208,212	$ 73,294
	Building fund pledges receivable	115,925	269,137
	Total Plant Replacement and Expansion Funds	$ 324,137	$ 342,431

See notes to financial statements.

Liabilities and Fund Balances

Unrestricted Funds		1977	1976
Current Liabilities:	Accounts payable and accrued liabilities	$ 4,566,196	$ 3,637,195
	Accrual for settlements with third-party payors (Note 1)	438,939	1,502,840
	Deferred nursing school tuition	432,248	421,891
	Advances from third-party payors	424,255	329,200
	Current portion of long-term debt (Note 3)	450,000	450,000
	Total current liabilities	6,311,638	6,341,126
Deferred Revenue—	Third-party reimbursement (Note 2)	887,600	778,400
Long-Term Portion of Mortgage Debt (Note 3)—	Massachusetts Health and Educational Facilities Authority—less unamortized discount of $211,180 in 1977 and $225,088 in 1976	13,338,820	13,774,912
Fund Balances	Fund Balances	24,940,387	24,540,231
	Total	$45,478,445	$45,434,669

Restricted Funds		1977	1976
Special Purpose Funds:	Special purpose fund balances	$1,529,569	$1,296,141
	Total Special Purpose Funds	$1,529,569	$1,296,141
Endowment Funds:	Accounts payable	$ 94,785	$
	Mortgage note payable (Note 4)	2,061,131	2,170,891
	Fund balances	4,912,903	4,304,899
	Total Endowment Funds	$7,068,819	$6,475,790
Plant Replacement and Expansion Funds:	Accounts payable	$	$ 78,000
	Fund balances	324,137	264,431
	Total Plant Replacement and Expansion Funds	$ 324,137	$ 342,431

See notes to financial statements.

New England Deaconess Hospital

Statements of Revenues and Expenses
for the Fiscal Years (52 Weeks)
Ended September 25, 1977 and
September 26, 1976

		1977	1976
Patient Service Revenue		$53,360,416	$43,729,129
Less—	Free care, provision for uncollectible accounts, contractual adjustments, etc.	(6,301,136)	(3,268,105)
Net Patient Service Revenue		47,059,280	40,461,024
Other Operating Revenue	(including $1,220,671 in 1977 and $906,138 in 1976 transferred from special purpose funds) (Note 1)	2,163,471	1,737,561
	Total operating revenue	49,222,751	42,198,585
Operating Expenses:	Professional care of patients:		
	General	10,330,331	9,173,333
	Special	18,445,219	15,553,590
	Household and property	4,001,231	3,486,452
	Dietary	3,031,422	2,716,882
	General services and administration	6,498,420	5,495,872
	Employee benefits	3,858,214	3,639,209
	Depreciation (Note 2)	1,724,408	1,364,657
	Research, etc.	1,220,671	906,138
	Interest	586,156	431,101
	Total operating expenses	49,696,072	42,767,234
Loss from Operations		473,321	568,649
Nonoperating Revenue (Expense):	Net income from endowment funds	312,253	240,044
	Donations and other distributions—net	164,782	77,588
	Interest, etc.	166,775	213,664
	Loss on demolition of apartment building		(348,786)
	Nonoperating revenue—net	643,810	182,510
Excess (Deficiency) of Revenues Over Expenses		$ 170,489	$ (386,139)

See notes to financial statements.

New England Deaconess Hospital

Statements of Changes in Fund Balances for the Fiscal Years (52 Weeks) Ended September 25, 1977 and September 26, 1976

		Unrestricted Funds	Restricted Funds		
			Special Purpose Funds	Endowment Funds	Plant Replacement and Expansion Funds
Balance, September 28, 1975		$22,782,508	$ 1,107,299	$4,153,291	$ 1,528,829
Increases (Decreases):	Legacies, gifts, etc. (Note 1)	310,178	75,685	112,044	96,934
	Building fund receipts				448,741
	Grants for specified purposes		948,559		
	Investment income		69,664		19,875
	Net gain on sales of investment securities		4,808	39,564	
	Excess of expenses over revenues for the year	(386,139)			
	Transfer to other operating revenue		(906,138)		
	Total	22,706,547	1,299,877	4,304,899	2,094,379
Interfund Transfers—	Investment in buildings and equipment	1,833,684	(3,736)		(1,829,948)
Balance, September 26, 1976		24,540,231	1,296,141	4,304,899	264,431
Increases (Decreases):	Legacies, gifts, etc. (Note 1)	68,258	202,964	614,628	
	Building fund receipts				188,094
	Grants for specified purposes		1,224,392		
	Investment income		43,265		17,444
	Net loss on sales of investment securities		(945)	(6,624)	
	Excess of revenues over expenses for the year	170,489			
	Transfer to other operating revenue		(1,220,671)		
	Total	24,778,978	1,545,146	4,912,903	469,969
Interfund Transfers—	Investment in buildings and equipment	161,409	(15,577)		(145,832)
Balance, September 25, 1977		$24,940,387	$ 1,529,569	$4,912,903	$ 324,137

See notes to financial statements.

New England Deaconess Hospital

Statements of Changes in Financial Position of Unrestricted Funds for the Fiscal Years (52 Weeks) ended September 25, 1977 and September 26, 1976

		1977	1976
Funds Provided:	Operations:		
	Loss from operations	$ (473,321)	$ (568,649)
	Add operating expenses not requiring current use of funds:		
	Depreciation (includes $61,162 in 1977 and $64,673 in 1976 charged directly to other operating revenue)	1,785,570	1,429,330
	Increase in deferred third-party reimbursement (Note 2)	109,200	65,000
	Amortization of bond discount	13,908	13,000
	Funds provided from operations	1,435,357	938,681
	Nonoperating revenue:		
	Nonoperating revenue—net	643,810	182,510
	Add nonoperating expenses not requiring current use of funds—net book value of apartments demolished		350,640
	Funds provided from nonoperating revenue	643,810	533,150
	Total funds provided from operations and nonoperating revenue	2,079,167	1,471,831
	Construction costs reimbursed from construction funds (Note 3)		1,622,454
	Unrestricted legacies	68,258	310,178
	Transfers from Restricted Funds—net	161,409	1,833,684
	Decrease in trustee designated funds	289,771	
	Total funds provided	2,598,605	5,238,147
Funds Applied:	Reduction of long-term mortgage debt	450,000	450,000
	Payments to debt service reserve fund, etc.—net (Note 3)	176,144	142,448
	Additions to property, plant, and equipment	2,290,598	4,485,112
	Increase in trustee designated funds		170,733
	Total funds applied	2,916,742	5,248,293
Decrease in Working Capital		$ 318,137	$ 10,146
Summary of Changes in the Components of Working Capital:	Increase (decrease) in current assets:		
	Cash, certificates of deposit, etc.	$(1,441,299)	$ (887,360)
	Investments	13,392	(50,196)
	Funds held in trust	(102,088)	(450,119)
	Accounts receivable—net	1,286,597	239,013
	Inventories of supplies	83,785	52,366
	Prepaid expenses, etc.	(188,012)	395,271
	Total	(347,625)	(701,025)
	Decrease (increase) in current liabilities:		
	Accounts payable, etc.	(929,001)	(304,305)
	Accrual for settlements with third-party payors	1,063,901	1,052,637
	Deferred nursing school tuition	(10,357)	(57,453)
	Advances from third-party payors	(95,055)	
	Total	29,488	690,879
Decrease in Working Capital		$ 318,137	$ 10,146

See notes to financial statements.

1. Accounting Policies

General

The accompanying balance sheets of the Hospital are presented in two basic fund accountabilities of unrestricted and restricted funds. Fund balances restricted by outside sources are included in restricted funds and are distinguished from unrestricted fund balances allocated to specific purposes by action of the Board of Trustees (trustee designated funds).

Restricted gifts and grants from restricted resources are added to the appropriate restricted funds. Restricted special purpose funds, when expended for current operating purposes, are transferred to unrestricted funds and are reported as other operating revenue.

It is the consistent policy of the Hospital to consider unrestricted legacies received ($68,258 and $310,178 in 1977 and 1976, respectively) as capital resources and to credit such receipts directly to unrestricted fund balances. Generally accepted accounting principles for hospitals, as set forth in the Hospital Audit Guide issued by the Committee on Health Care Institutions of the American Institute of Certified Public Accountants, require the reporting of such amounts as nonoperating revenue. Had the aforementioned amounts been so reported, the Hospital would have reported an excess (deficiency) of revenues over expenses of $238,747 in 1977 and $(75,961) in 1976.

Investments

Investments are stated at cost or, if received by gift or bequest, at fair market value when received. Substantially all of the Hospital's investments are included in an investment pool which is operated on the "market-value" method whereby each participating fund is assigned a number of units based on the market value of the assets of the pool at the time of entry of the fund into the pool. Income of the pool is allocated to participating funds based on their respective shares of the pool.

Estimated Settlement with Third-Party Payors

Preliminary calculations of final cost reimbursement adjustments relative to third-party contracts with Blue Cross and Medicare are reported in the accompanying balance sheets as a current liability. Cost reports to be filed for the current year, as well as cost reports filed for 1976 and 1975, are subject to final determination by the reimbursement agency under each program. Variances between preliminary calculations and final settlements are included in the statements of revenues and expenses in the year in which the settlements occur.

Other

Other significant accounting policies are set forth in the financial statements or in the notes which follow.

2. Property, Plant, and Equipment

Property, plant, and equipment of unrestricted funds are stated at cost less accumulated depreciation and are summarized as follows:

	1977	1976
Land	$ 640,846	$ 468,946
Buildings	19,010,712	19,043,307
Fixed equipment	19,055,099	18,221,177
Major movable equipment	8,521,027	7,120,790
Construction in progress		239,070
Total	47,227,684	45,093,290
Less accumulated depreciation	(15,021,139)	(13,391,773)
Property, plant, and equipment—net	$32,206,545	$31,701,517

Depreciation is computed using the straight-line method over the estimated useful lives of depreciable assets. As to certain depreciable assets acquired before 1971, the Hospital uses accelerated depreciation methods to determine reimbursable costs under a third-party reimbursement agreement. The revenue attributable to the excess of accelerated over straight-line depreciation is deferred and will be added to income when the depreciation timing differences reverse. Revenue thus deferred for 1977 and 1976 amounted to $109,200 and $65,000, respectively.

3. Long-Term Debt	On November 8, 1973, the Massachusetts Health and Educational Facilities Authority (the Authority) sold $14,900,000 principal amount of revenue bonds, designated New England Deaconess Hospital Issue, Series A, and loaned the proceeds therefrom to the Hospital. With certain exceptions, principally the Medical Office Building and Kennedy Hall, all of the Hospital's land and buildings (including contents) are pledged as collateral in connection with the mortgage conveyed by the Hospital to the Authority. The Hospital has also granted to the Authority a first lien on certain defined gross receipts (including related accounts receivable) as additional security for payment of the mortgage. The mortgage agreement provides for payment, to funds held in trust, of an initial deposit of principal and interest and subsequent monthly payments in amounts proportionate to the Authority's (a) annual principal payments on sinking fund instalments, ranging from $450,000 in 1978 to $525,000 in 2005 and (b) semiannual interest payments at rates varying from 4.7% to 5.7% over the lives of the bonds.
4. Endowment Funds Mortgage Note Payable	The endowment funds mortgage note bears interest at 5¼% and is payable in monthly instalments through January 1991, including, at September 25, 1977, $110,000 due within one year. The Medical Office Building is assigned as collateral under the terms of this mortgage.
5. Employees' Retirement Plan	The Hospital has a noncontributory defined benefit retirement plan covering all employees working 1,000 hours or more per year. Total pension expense aggregated $1,382,000 in 1977 and $1,216,000 in 1976 including, in both years, amortization over a forty-year period of the unfunded actuarially computed past service liability. Such unfunded liability approximated $7,130,000 as of October 1, 1976, the last plan valuation date, which includes the effect of changes made in the plan in order to comply with Pension Reform Act of 1974. The actuarially computed value of vested benefits under the plan as of the last plan valuation date exceeded the total of the pension fund net assets and balance sheet accruals by approximately $2,140,000.
6. Malpractice and Comprehensive Liability Insurance	In March 1976 the Hospital, together with ten other area institutions commonly referred to as the Harvard affiliated medical institutions, formed a captive insurance company, Controlled Risk Insurance Company, Ltd. (CRICO). Effective April 1, 1976, the Hospital placed its malpractice and comprehensive liability insurance coverage with CRICO and changed the coverage from an occurrence basis policy to a claims-made policy. Claims based on occurrences prior to April 1, 1976 are insured under the Hospital's previous policy. The new policy, which is subject to renewal on an annual basis, covers only claims actually made during the term of the policy, but not those occurrences for which claims may be made after expiration of the policy.
7. Trust Funds Held by Others	The Hospital is a beneficiary of a non-discretionary trust held by others which is not reported on the accompanying balance sheets. The quoted market value of the Hospital's share of trust assets was $1,797,200 at September 25, 1977 and $1,889,200 at September 26, 1976. The Hospital received distributions of income from the trust of $95,000 in 1977 and $90,384 in 1976.

Auditors' Opinion

New England Deaconess Hospital:

We have examined the balance sheets of New England Deaconess Hospital as of September 25, 1977 and September 26, 1976 and the related statements of revenues and expenses, changes in fund balances, and changes in financial position of unrestricted funds for the fiscal years (52 weeks) then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As more fully described in Note 1 to the financial statements, it is the consistent practice of the Hospital to record unrestricted legacies received as credits directly to unrestricted fund balances. In our opinion, generally accepted accounting principles require that such legacies be reported as nonoperating revenue.

In our opinion, the financial statements referred to above present fairly the financial position of the Hospital at September 25, 1977 and September 26, 1976 and, except for the effects of the accounting policy referred to in the preceding paragraph, the results of its operations, changes in its fund balances, and changes in the financial position of its unrestricted funds for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Haskins & Sells

Boston, Massachusetts
November 17, 1977

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